

Claims

- [c1] 1. An inner layer structure of a circuit board, comprising:
 - a dielectric layer having a first side and a second side;
 - a first bonding pad on said first side of said dielectric layer;
 - a first bump, wherein one end of said first bump is connected to said first bonding pad;
 - a second bonding pad on said second side of said dielectric layer; and
 - a second bump, wherein one end of said second bump is connected to said second bonding pad.
- [c2] 2. The inner layer structure of a circuit board of claim 1, further comprising a first circuit pattern on said first side of said dielectric layer forming said first bonding pad.
- [c3] 3. The inner layer structure of a circuit board of claim 1, further comprising a second circuit pattern on said second side of said dielectric layer forming said second bonding pad.
- [c4] 4. An inner layer structure of a circuit board, comprising:
 - a dielectric layer having a first side and a second side, wherein said dielectric layer includes a through hole

penetrating through said dielectric layer and said through hole connects said first side and said second side of said dielectric layer;
a conducting plug within said through hole; and
a bump, wherein one end of said bump is connected to an end of said conducting plug near said first side.

- [c5] 5. The inner layer structure of a circuit board of claim 4, wherein said conducting plug includes a conducting wall on the inner side wall of said first through hole and said conducting wall extends to said first side of said dielectric layer, and a portion of said conducting wall extending to said first side of said dielectric layer forms a ring pad, wherein one end of said bump is connected to said ring pad.
- [c6] 6. The inner layer structure of a circuit board of claim 4, wherein said conducting plug includes a conducting column.
- [c7] 7. An inner layer structure of a circuit board, comprising:
a dielectric layer having a first side and a second side, wherein said dielectric layer includes a through hole penetrating through said dielectric layer and said through hole connects said first side and said second side of said dielectric layer;
a conducting plug within said through hole;

a second dielectric layer having a third side;
a bonding pad on said third side of said second dielectric layer; and
a bump, wherein one end of said bump is connected to said bonding pad and another end of said bump is connected to an end of said conducting plug near said second side of said first dielectric layer.

- [c8] 8. The inner layer structure of a circuit board of claim 7, further comprising a third dielectric layer filled with the space between said first dielectric layer and said second dielectric layer.
- [c9] 9. The inner layer structure of a circuit board of claim 7, wherein said conducting plug includes a conducting wall on the inner side wall of said first through hole and said conducting wall extends to said second side of said first dielectric layer, and a portion of said conducting wall extending to said second side of said first dielectric layer forms a ring pad, wherein another end of said bump is connected to said ring pad.
- [c10] 10. The inner layer structure of a circuit board of claim 7, wherein said conducting plug includes a conducting wall on the side wall of said through hole and the inner side of said conducting wall surrounds a second through hole, and one end of said bump is embedded in said

second through hole and is connected to an inner side of said conducting wall near said first side of said first dielectric layer.

- [c11] 11. The inner layer structure of a circuit board of claim 7, wherein said conducting plug includes a conducting column.
- [c12] 12. The inner layer structure of a circuit board of claim 7, further comprising a circuit pattern on said third side of said second dielectric layer forming said bonding pad.
- [c13] 13. An inner layer structure of a circuit board, comprising: a first dielectric layer having a first side; a first bonding pad on said first side of said first dielectric layer; a first bump, wherein one end of said first bump is connected to said first bonding pad; a second dielectric layer having a second side; and a second bonding pad on said second side of said second dielectric layer., wherein said second bonding pad is connected to another end of said first bump.
- [c14] 14. The inner layer structure of a circuit board of claim 13, further comprising a third dielectric layer filled with the space between said first dielectric layer and said second dielectric layer.
- [c15] 15. The inner layer structure of a circuit board of claim

13, further comprising a second bump, wherein the one end of said second bump is connected to said second bonding pad, and said second bonding pad is indirectly connected to another end of said first bump via said second bump.

- [c16] 16. The inner layer structure of a circuit board of claim 13, further comprising a first circuit pattern on said first side of said first dielectric layer forming said first bonding pad.
- [c17] 17. The inner layer structure of a circuit board of claim 13, further comprising a second circuit pattern on said second side of said second dielectric layer forming said second bonding pad.